PRODUCT PREVIEW

OPTICAL SENSORS

SENSOPART

"We set our standards not by what is possible today but by what can be achieved in the future."

We have followed this concept since our founding and have thus laid the foundation for customer satisfaction and continuous growth. Created in 1994 from the take-over of an insolvent company, SensoPart is today one of the leading suppliers in industrial sensor technology. Our concept: speed, combined with **ability for innovation, quality and customer orientation.**

For the following is as true as ever: it is not size that counts but speed…

Ability for innovation

SensoPart successfully invests in research and development at a level way above average for this branch. The latest proof: the Dr. Rudolf Eberle Prize for Innovation for the world's smallest colour sensor, which operates with white light and also detects moving objects at varying distances according to a patented process. A technological exception which does not confirm old rules but will be the herald of a new rule. This is partly because the primary focus was the application possibilities, rather than merely the technology itself. And this is the sole target of our innovations.

Quality

Our quality management is based above all on our ambitious targets rather than just certifications. For us, the term quality is not the same as the excellent performance of our products. Product quality is only the material foundation of a long-term and lasting relationship between the customer and supplier. Continuously checking and improving these relationships is both the means and the goal.

Customer orientation

Only customer success guarantees our own success. This is valid just as much for applications with our standard products as for the development of customer-specific applications. Customers do not buy products – they only buy what our products achieve.

We obtain the necessary trust from our customers through reliability, customer-proximity and an exemplary sales concept. Strategic partnerships with well-known companies throughout the world as well as the highly-prized first place at the **"Baden-Württemberg Sponsorship Prize for Young Companies 2002"**, in which more than 600 companies participated, confirm our efforts.

Portfolio

SensoPart develops and markets sensors for all industrial applications. The main focus of the group is optical sensors, which can be subdivided as follows:

- Innovative standard sensor technology
- Laser technology
- Distance measurement/Positioning
- Detection of colour and markings
- Detection of objects

Standard products

The following products are recognised for achieving utmost performance characteristics and setting new standards on the market – not forgetting their reliability and efficiency in practice.

- Assembly and handling technology
- Automotive industry
- Mechanical engineering/Machines made to specification
- Storage and material handling
- Packing technology
- Textile industry
- Food industry

Application-specific use

Do you have to accomplish a specific application in sensor technology? With your help, we will develop the special optical sensor which will best solve your problem, e.g. for

- faster acquisition tasks
- wider ranges
- other types of light
- other designs

F 20 Miniature series

The David amongst the Goliaths: it covers all requirements of optical sensor technology in cramped spaces whilst offering highly-accurate detection and ease of use. For example the FT 20 RLH version, one of the smallest laser proximity switches with teach-in mode in the world, with background suppression.

- Fast and reliable settings through Teach In® procedure
- Tamper-proof due to locking function
- Visible red light (LED) for simple adjustment
- Switching frequency 1000 Hz for fast sequence of operations
- Adjustment via control input with inaccessible installations
- Dynamic adjustment during running operational process
- Further models: Fibre-optic amplifiers, contrast and analogue sensors

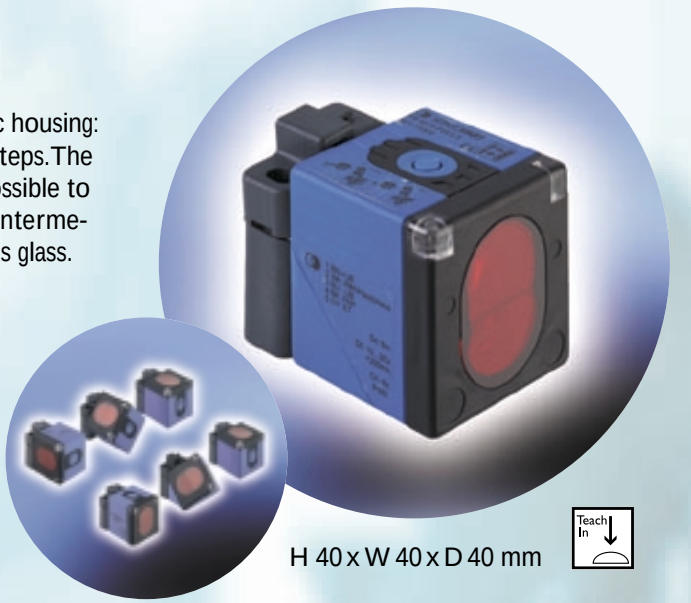
H 32 x W 20 x D 12 mm

Product	Function	Range	Switching frequency	Red light	PNP	NPN	N.O.	N.C.	Connector	Cable
FT 20 R	Proximity switch	300 mm	1000 Hz	•	•	•	•	•	•	•
FT 20 RL	Contrast sensor	200 mm	1000 Hz	•	•	•	•	•	•	•
FT 20 RLH	Proximity switch with background suppression	60 mm	1000 Hz	•	•	•	•	•	•	•
FT 20 RLHD	Proximity switch with background suppression	110 mm	1000 Hz	•	•	•	•	•	•	•
FT 20 RH	Proximity switch with background suppression	100 mm	1000 Hz	•	•	•	•	•	•	•
FT 20 IH	Proximity switch with background suppression	150 mm	800 Hz		•	•	•	•	•	•
FR 20 R	Retro-reflective sensor	2.5 m	1000 Hz	•	•	•	•	•	•	•
FR 20 RL	Retro-reflective sensor	1 m	1000 Hz	•	•	•	•	•	•	•
FR 20 RG I	Sensor for glass detection (Autocollimation)	0.5 m	1000 Hz	•	•	•	•	•	•	•
FR 20 RD	Retro-reflective sensor	3.5 m	1000 Hz	•	•	•	•	•	•	•
FS/FE 20 R	Through beam sensor	6 m	500 Hz	•	•	•	•	•	•	•

F 40 series

The product series with the advantages of the almost standardised cubic housing: the sensor head can be rotated axially on the fixing flange, by 360° in 8 steps. The connector plug can also be rotated by 90°. This combination makes it possible to set the light emission on 5 of the 6 possible sides of the cube. 4 further intermediary settings are possible. A special highlight is the version which detects glass.

- Fast and reliable settings through Teach In® procedure
- Tamper-proof due to locking function
- Visible red light (LED) for simple adjustment
- Also available as an inductive sensor
- Multi-function setting through Teach In®, Apa® and Auto Teach®
- Additional control output



H 40 x W 40 x D 40 mm

Product	Function	Range	Switching frequency	Red light	PNP	NPN	N.O.	N.C.	Connector	Cable
FT 40 R	Proximity switch	1000 mm	1000 Hz	•	•	•	•	•	•	
FT 40 RH	Proximity switch with background suppression	250 mm	1000 Hz	•	•	•	•	•	•	
FR 40 R	Retro-reflective sensor	6 m	1000 Hz	•	•	•	•	•	•	
FR 40 RG	Retro-reflective sensor for detection of glass	1000 mm	1000 Hz	•	•	•	•	•	•	

F 90 series

The new dimension with extremely powerful sensors for distance measurement.
The F90 series operates according to the principle of pulsed time of flight measurement and thus has several application advantages such as a high measuring rate combined with a high level of accuracy. A small selection of its many applications are: positioning of high bay stackers, cranes and vehicles mounted on rails in storage and material handling technology, or a variety of applications in object detection and positioning, from great distances, in all areas of manufacturing in the form of a proximity switch.

- Reflector and proximity switch version
- High accuracy
- High measuring rates
- Serial or SSI interface
- Simple parameterisation via comfortable control panel or PC software
- Very good price/performance ratio

H 93 x W 93 x D 42 mm

Product	Function	Range	Operating frequency	Repitition accuracy	PNP	Interfaces
FR 90 ILA	Retro-reflective sensor	0,5 – 100 m	~1 kHz	+/- 2 mm	•	Serial standard interfaces, Profibus
FT 91 ILA	Retro-reflective sensor	0,5 – 50 m	~1 kHz	+/- 5 mm	•	Serial standard interfaces, Profibus
FR 90 ILA	Proximity switch	0,5 – 10 m	~1 kHz	+/- 4 mm	•	Serial standard interfaces, Profibus, 0 – 20 mA
FT 91 ILA	Proximity switch	0,5 – 6 m	~1 kHz	+/- 5 mm	•	Serial standard interfaces, Profibus, 0 – 20 mA

Cylindrical sensors

With an external thread range from M4 to M30 and the most varied functions, our cylindrical sensors meet user requirements above all in those places where cubic and rectangular shapes prove to be unsuitable.
All principles of function and types of light are available.

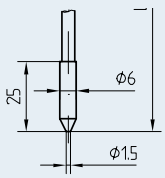
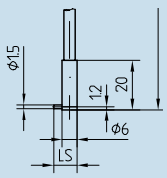
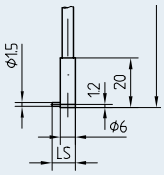
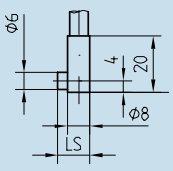
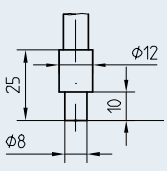
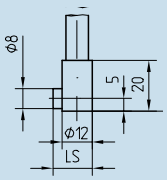
- Robust, nickel-plated brass housing
- Reliable pot setting
- Simple installation due to drilling of core holes
- Axial or radial light emission

Product	Function	Range	Switching frequency	Red light	PNP	NPN	N.O.	N.C.	Connector	Cable
FM 04/05	Proximity switch	50 mm	200 Hz		•	•	•		•	•
FMS 12	Proximity switch	200 mm	200 Hz		•	•	•	•	•	•
FT 12 R	Proximity switch	300 mm	1000 Hz	•	•	•	•	•	•	•
FMS 18 B	Proximity switch	400 mm	1000 Hz		•	•	•		•	•
FT 18 R	Proximity switch	600 mm	1000 Hz	•	•	•	•	•	•	•
FMS 30 B	Proximity switch	1000 mm	1000 Hz		•	•	•		•	•
FT 12 RF	Proximity switch with background suppression	23 mm	1000 Hz	•	•		•		•	
FT 12 RH	Proximity switch with background suppression	60 mm	1000 Hz	•	•		•	•	•	
FMH 18	Proximity switch with background suppression	120 mm	600 Hz	•	•	•	•	•	•	•
FR 12 R	Retro-reflective sensor	1.5 m	1000 Hz	•	•	•	•		•	•
FR 18 R	Retro-reflective sensor	2 m	1000 Hz	•	•	•	•		•	•
FS/FE 12 R	Through beam sensor	4 m	1000 Hz	•	•	•	•		•	•
FS/FE 18 R	Through beam sensor	6 m	1000 Hz	•	•	•	•		•	•
FLS/FLE 12	Through beam sensor	5 m	10.000 Hz	•	•		•	•	•	•
FLS/FLE 18 F	Through beam sensor	50 m	6000 Hz	•	•		•	•	•	•

Cylindrical sensors for use with fibre-optics

Metric housing has the advantage of being simple and quick to install.The sensors are supplied in M18 or M30 housing.The fibre-optics are connected and secured with a coupling ring to provide a perfect connection and utmost tensile strength.
Together with a robust housing and wear-resistant fibre-optic casing, cylindrical sensors provide a perfect solution for harsh surroundings whose cramped conditions require the use of fibre-optics.

- Scanning range (proximity switches) 0-800 mm (depending on fibre-optic used)
- Operating range (retro-reflective sensors) 0-4800 mm (depending on fibre-optic used)
- Robust metal housing
- Exclusive OR signal output
- Reversible N.O./NC
- Available in different lengths
- Different casings for fibre-optics
- Also for temperatures above 180° C

Product	Direction	Light emission (Silicone version)	Scanning range with FMS 18	Scanning range with FMS 30	Operating range with FMS 18	Operating range with FMS 30	Silicone	PVC	Metal
18/30 L 1...	Axial				80 mm	100 mm	•	•	•
18/30 R 1...	Axial		5 mm	15 mm			•	•	•
18/30 LZ 1...	Radial				80 mm	100 mm	•		•
18/30 RZ 1...	Radial		5 mm	15 mm			•		•
18/30 L 3...	Axial				700 mm	1000 mm	•	•	•
18/30 R 3...	Axial		160 mm	200 mm			•	•	•
18/30 LZ 3...	Radial				700 mm	1000 mm	•	•	•
18/30 RZ 3...	Radial		160 mm	200 mm			•	•	•
30 L 12...	Axial					4800 mm	•	•	•
30 R 12...	Axial			800 mm			•	•	•
30 LZ 12...	Radial					4800 mm	•		•
30 LZ 12...	Radial			800 mm			•		•

Detection of colour and markings

FT 50 C

Whilst conventional colour sensors need three superimposed primary colours for detection, our FT 50 C functions with white light and offers a suitable solution for every application: for example, the FT 50 C3 is particularly suitable for colour detection of leads when manufacturing cables due to its oblong light spot of 5x1 mm. The FL 64 C colour sensor is a DIN rail sensor with fibre-optic connection. This is simply snapped on to a DIN rail. The fibre-optic head with a diameter of 6mm can reliably detect colour even in cramped conditions.
The FT 85 and FT 20 RL sensors are particularly suitable for contrast detection.

- Dr. Rudolf Eberle Prize for Innovation (FT 50C)
- Adjustable colour tolerances
- High distance tolerance
- Scanning function
- Teach-In technology
- Different versions for detecting colour, markings and contrast
- Versions also available with fibre-optics connection

Product	Scanning distance	Colour sensor	Contrast sensor	Switching frequency	Connector	Cable
FT 82 RG	9 mm + 18 mm		•	10 kHz	•	•
FL 64 C	3 - 15 mm	•		55 Hz	•	•
FL 64 RG	50 mm		•	5 KHz	•	•
FT 50 C	10 - 30 mm	•		500 Hz	•	
FT 20 RL	200 mm		•	1000 Hz	•	•

SmartPlug

Ø 20 mm x 60 mm

Brain food for your sensor: Adapted between the sensor and connection cable, the SmartPlug fulfils functions which would otherwise have to be programmed via a PLC. There is a choice of 4 basic versions which are programmed via Teach In® or you can opt for the new all-in-one MFU SmartPlug which is already programmed with all functions. You can then adjust them with your Palm Organiser or notebook using the integrated infrared interface.

- Suitable for sensors from all well-known manufacturers
- Suitable for M12 connections (also for M8 using adapter)
- All versions cascadable, e.g. counter and timer combined
- For pulse stretching or as signal amplifier up to 400 mA
- Versions for manual or Palm programming
- Maximum switching frequency 10KHz

Product	Counter	Inverter	Timer	Frequency controller	N.O.	N.C.
MFU 12 N4 P/PC	•	•	•	•		•
MFU 12 P4 P/PC	•	•	•	•	•	
MFC 12 NN4	•					•
MFC 12 PP4	•				•	
MFF 12 NN4				•		•
MFF 12 PP4				•	•	
MFI 12 NP4		•				•
MFI 12 PN4		•			•	
MFT 12 NN4			•			•
MFT 12 PP4			•		•	

www.sensopart.com

SENSOPART
WIR SCHALTEN SCHNELLER

Sensopart UK Limited
G8 The Arch
48 - 52 Floodgate Street
Birmingham B5-5SL
Tel. +44 (0) 121 772 51 04
Fax. +44 (0) 121 772 51 26
http://www.sensopart.com

USA
Sentec Automation Comp., Inc.
1531 E. Highwood Ave
Pontiac, Michigan 48340
Tel.: +(1) 248 3 34 - 40 24
Fax: +(1) 248 3 34 - 48 53
http://www.sensopart.com

SensoPart
Industriesensorik GmbH
Am Wiedenbach 1
D - 79695 Wieden
Tel. +49 (0) 76 73 - 8 21 - 0
Fax +49 (0) 76 73 - 8 21 - 30
http://www.sensopart.de

SensoPart France SARL
11, rue Albert Einstein
Espace Descartes
F-77420 Champs - Marne la Vallée
Tél. +33 (0) 1 64 73 00 61
Fax +33 (0) 1 64 73 10 87
http://www.sensopart.fr

06/03 068-13192